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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,989	07/11/2003	Kazuto Hirokawa	2003-0954A	2781

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WASHINGTON, DC 20006-1021

EXAMINER

SHAKERI, HADI

ART UNIT PAPER NUMBER

3723

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

**Office Action Summary**

Application No.

10/616,989

Applicant(s)

HIROKAWA, KAZUTO

Examiner

Hadi Shakeri

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 and 30-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 30-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

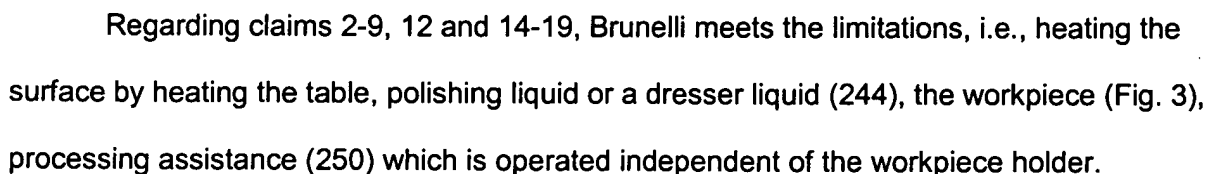
- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.



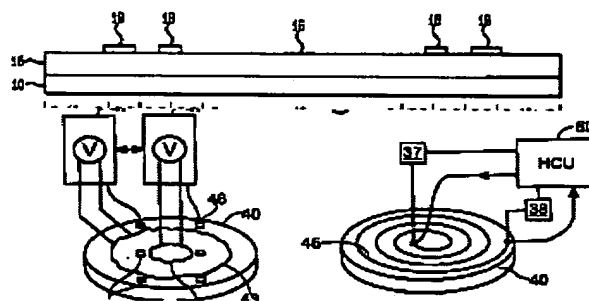
**Claim Rejections - 35 USC § 103**

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunelli in view of Yang et al. (6,749,484), Monore (6,227,939) or Wise et al. (6,020,262).

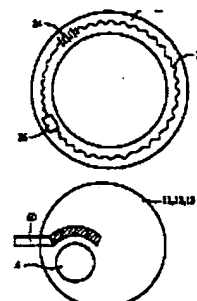
Brunelli meets all of the limitations of the above claims, except for disclosing controlling the temperature through a member attached to the polishing head carrying the workpiece. Controlling temperature through the top ring is known as evident by Yang et al., Monore or Wise et al.



It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the invention of Brunelli with temperature control means as taught by Yang et al., Monore or Wise et al. as another economical means of controlling parameters in CMP operations.

5. Claims 10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunelli in view of Yang et al.

Brunelli meets all of the limitations of the above claims, except for disclosing controlling the temperature through a member operable independent of the dresser and a polishing head carrying the workpiece. Yang et al. teaches CMP apparatus with temperature control utilizing a member (60) operable independent of the top ring holding the wafer.



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It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the invention of Brunelli with temperature control means as taught by Yang et al. as another economical means of controlling parameters in CMP operations.

6. Claims 30-32 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Brunelli.

Thermostat (280) regulating the temperature, e.g., by activating/deactivating the heater in establishing the desired temperature, as disclosed by Brunelli is considered to meet the limitation as recited (particularly with respect to claim 32), however, in the alternative, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to cool the tool and/or processing circumstance as a means of controlling parameters in CMP operations by controlling the temperature.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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***Response to Arguments***

8. Applicant's arguments filed 03/02/05 have been fully considered but they are not persuasive. Applicant argues that per certain passage in the Brunelli reference, i.e., 03:45-56, 52-57, 04:13-14, 06:54-60 and the Abstract), that Brunelli discloses heating the pad to at least 98% of the glass transition temperature and that it actually teaches away from the claimed invention by clearly implying that this approximation to the glass transitional temperature is a minimum and that the temperature can, at least on occasion, reach higher level than the transitional temperature. This is not found persuasive, since, even if Applicant argument is correct, on the occasion, where the temperature does not reach the transitional temperature, Brunelli reads on the claims as recited. Brunelli actually discloses, e.g., in the Abstract, lines 7 and 8, "...planarizing surface attains approximately its glass transition temperature." this "approximation" is further disclosed by 98% of the glass transition temperature, (03:38). And further in an example in the last paragraph of page 6 and first paragraph of page 7, it discloses a pad with glass transition temperature of 100 degrees F, and wherein the pad is heated to 90 degrees F. It is unclear how this does not read over the claims?

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hadi Shakeri whose telephone number is (571) 272-4495. The examiner can normally be reached on Monday-Friday.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hadi Shakeri  
Primary Examiner  
Art Unit 3723  
May 12, 2005